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EXAMINER

SHINGLES, KRISTIE D

ART UNIT PAPER NUMBER

2141

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/965,897

Applicant(s)

KAMVYSSELIS, PETER

Examiner

Kristie Shingles

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-103 is/are pending in the application.
- 4a) Of the above claim(s) 104-107 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 63-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 6/21/05.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant has amended claims 63, 71, 80, 81, 86, 92, 94 and 103.

Claims 104-108 have been cancelled.

Claims 63-103 are pending.

Drawings

1. The proposed drawing corrections filed 4/8/2005 have been accepted by the Examiner. The corrections to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101 Utility

2. Per claims **86-103**, the proposed statutory subject matter correction filed on 4/8/2005 has been accepted by the Examiner. Therefore, the rejection has been withdrawn.

Response to Arguments

3. Applicant's arguments filed 4/8/2005 have been fully considered but they are not persuasive. See Examiner's Remarks below.

A. Regarding Applicant's assertion that, "Chandra does not show, teach, or suggest a feature of the present claimed invention, recited in each of the independent claims in various forms, where packets of data associated with the same sequence number are sent to the

Art Unit: 2141

destination in an order that is independent of an order in which the packets are obtained” (Remarks, page 23).

A.1. It is the Examiner’s position that *Chandra et al* (USPN 6,058,389) teaches the above feature, by obtaining messages in a FIFO order, but then reordering the messages by the priority code, which also functions as a sequencing index (col.10 lines 55-59 and col.24 line 55-col.26 line 62). Therefore, it is apparent that *Chandra et al* teaches the above feature, wherein messages may be received and queued in one order but dequeued and transmitted in another order that may be dependent on the priority code, the default sorting order specified by users (col.8 lines 41-46) or by a sequence deviation parameter, which is independent of the order in which the messages were obtained.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **63-81 and 86-103** are rejected under 35 U.S.C. 102(b) as being anticipated by *Chandra et al* (USPN 6,058,389).

a. **Per claim 63**, *Chandra et al* teach a method of sending data, comprising:

Art Unit: 2141

- obtaining a first predetermined value for a sequence number (col.3 lines 19-30, col.10 lines 46-59, col.14 lines 10-52, col.15 lines 23-55 and col.27 lines 10-65; values for sequencing are determined and specified using a priority code, state value or by a sequence deviation number according to the control information);
- obtaining blocks of data, wherein each of the blocks of data corresponds to a packet of data (col.6 lines 45-51 and col.12 lines 29-35; message units correspond to blocks of data);
- assigning the first predetermined value as the sequence number to each of the packets of data (col.10 lines 46-59, col.11 lines 3-9 and col.14 lines 10-65; the priority code, control information or sequence deviation parameter determines the sequencing of the messages in the queue); and
- in response to the sequence number becoming equal to a second predetermined value different from the first predetermined value, acknowledging receipt of the blocks of data corresponding to the packets of data that are assigned the first predetermined value as the sequence number and sending the packets of data that are assigned the first predetermined value as the sequence number to a destination (col.5 line 10-col.6 line 10, col.10 lines 15-26, col.14 lines 10-52, col.15 lines 18-33, col.16 lines 1-11, col.21 line 8-col.22 line 4 and col.27 lines 10-65; when state value reaches "EXPIRED" the message has been processed and received by the exception queue, a message is dequeued when its sequence number has reached a predetermined sequence value greater than the highest sequence number associated with the application and subsequently moved/archived to the Exception Queue).
- wherein packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are obtained (col.8 lines 41-46 and col.10 lines 55-59; provision for obtaining messages in a FIFO order, but then reordering the messages by the priority code).

b. **Claim 86** contains limitations that are substantially equivalent to claim 63 and is therefore rejected under the same basis.

c. **Per claim 64**, *Chandra et al* teach the method of Claim 63, the method further comprising: prior to acknowledging, indicating to a first storage device a transfer ready signal; and sending said blocks of data to a second storage device (col.4 lines 49-63, col.14 lines 10-46,

Art Unit: 2141

col.14 lines 23-36 and col.16 lines 6-11; state parameter indicates a “READY” value when the message is ready to be processed and after processing the value becomes “EXPIRED” and sent to a second storage place in the Exception Queue).

d. **Claim 87** is substantially equivalent to claim 64 and is therefore rejected under the same basis.

e. **Per claim 65**, *Chandra et al* teach the method of Claim 64, wherein said acknowledging is performed prior to providing said blocks of data to said second storage device (col.15 lines 34-64 and col.16 lines 6-60; provision for indicative parameters and notification process before messages leave the queue for another location).

f. **Claim 88** is substantially equivalent to claim 65 and is therefore rejected under the same basis.

g. **Per claim 66**, *Chandra et al* teach the method of Claim 63, wherein the second predetermined value is a number that is one greater than the first predetermined value (col.21 line 14-col.22 line 4, col.25 line 56-col.27 line 65 and col.28 lines 1-15; incrementing to a higher value).

h. **Claim 89** is substantially equivalent to claim 66 and is therefore rejected under the same basis.

i. **Per claim 67**, *Chandra et al* teach the method of Claim 63, farther comprising: in response to the sequence number becoming equal to the second predetermined value, providing a value to each of the packets corresponding to a total number of packets of data that are assigned the first predetermined value as the sequence number (col.10 lines 38-40, col.18 lines 37-48, col.21 line 8-col.22 line 4 and col.25 line 56-col.27 line 65).

Art Unit: 2141

j. **Claim 90** is substantially equivalent to claim 67 and is therefore rejected under the same basis.

k. **Per claim 68**, *Chandra et al* teach the method of Claim 63, farther comprising: incrementing the sequence number periodically (col.13 line 49-col.14 line 6, col.20 line 40-col.21 line 7 and col.22 lines 1-4; **sequence numbers are incremented and decremented according to the insertions and deletions in the queue**).

l. **Claim 91** is substantially equivalent to claim 68 and is therefore rejected under the same basis.

m. **Per claim 69**, *Chandra et al* teach the method of Claim 68, wherein incrementing the sequence number periodically includes incrementing the sequence number according to an amount of time between a first block of data being provided and a second block of data being prodded, wherein the second block of data being provided depends upon the first block of data being provided (col.24 line 55-col.26 line 66 and col.28 lines 16-col.29 line 54).

n. **Claim 92** is substantially equivalent to claim 69 and is therefore rejected under the same basis.

o. **Per claim 70**, *Chandra et al* teach the method of Claim 63, further comprising: prior to sending the packets of data, storing the data in a journal (col.2 lines 52-60, col.4 lines 49-63, col.6 lines 12-44, col.6 line 64-col.7 line 3, col.10 lines 38-40, col.15 lines 39-44 and col.35 lines 1-26; **provision for cache and storage prior to transmitting/transferring messages**).

p. **Claim 93** is substantially equivalent to claim 70 and is therefore rejected under the same basis.

- q. **Per claim 71, *Chandra et al* teach the method of receiving data, comprising:**
- accumulating received packets of data having a sequence number equal to a first predetermined value (col.3 lines 19-30, col.10 lines 46-59, col.14 lines 10-52, col.15 lines 23-55 and col.27 lines 10-65; values for sequencing are determined and specified using a priority code, state value or by a sequence deviation number according to the control information);
 - obtaining a first indication that the sequence number equals the first predetermined value (col.10 lines 46-59, col.11 lines 3-9, col.14 lines 10-65, col.15 lines 34-64 and col.16 lines 6-60; provision for indicative parameters and notification process before messages leave the queue for another location—the priority code, control information or sequence deviation parameter determines the sequencing of the messages in the queue);
 - obtaining a second indication that the sequence number equals a second predetermined value different from the first predetermined value (col.4 lines 49-63, col.14 lines 10-46, col.14 lines 23-36 and col.16 lines 6-11; state parameter indicates a “READY” value when the message is ready to be processed and after processing the value becomes “EXPIRED” and sent to a second storage place in the Exception Queue); and
 - in response to obtaining the second indication, transferring data corresponding to packets of data having the sequence number equal to the first predetermined value to a receiving device (col.5 line 33-col.6 line 10, col.10 lines 15-26, col.14 lines 10-52, col.15 lines 18-33, col.16 lines 1-11, col.21 line 8-col.22 line 4 and col.27 lines 10-65; when state value reaches “EXPIRED” the message has been processed and received by the exception queue, a message is dequeued when its sequence number has reached a predetermined sequence value greater than the highest sequence number associated with the application and subsequently moved/archived to the Exception Queue).
 - wherein packets of data associated with the same sequence number are transferred to the receiving device in an order that is independent of an order in which the packets are accumulated (col.8 lines 41-46 and col.10 lines 55-59; provision for obtaining messages in a FIFO order, but then reordering the messages by the priority code).
- r. **Claim 94 contains limitations that are substantially equivalent to claim 71 and is therefore rejected under the same basis.**

s. **Per claim 72, *Chandra et al* teach the method of Claim 71, further comprising:**
following obtaining the first indication, initiating a transfer command to the receiving device
(col.4 lines 49-63, col.14 lines 10-46, col.14 lines 23-36 and col.16 lines 6-11; state parameter
indicates a “READY” value when the message is ready to be processed and after processing
the value becomes “EXPIRED” and sent to a second storage place in the Exception Queue).

t. **Claims 74, 95 and 97 are substantially similar to claim 72 and are therefore
rejected under the same basis.**

u. **Per claim 73, *Chandra et al* teach the method of Claim 72, wherein data is not
transferred to the receiving device until the receiving device acknowledges initiation of data
transfer in response to the transfer command being initiated (col.15 lines 34-64 and col.16 lines
6-60; provision for indicative parameters and notification process before messages leave
the queue for another location).**

v. **Claims 75, 96 and 98 are substantially equivalent to claim 73 and are therefore
rejected under the same basis.**

w. **Per claim 76, *Chandra et al* teach the method of Claim 71, wherein the second
predetermined value is a number that is one greater than the first predetermined value (col.21
line 14-col.22 line 4, col.25 line 56-col.27 line 65 and col.28 lines 1-15; incrementing to a
higher value).**

x. **Claim 99 is substantially equivalent to claim 76 and is therefore rejected under
the same basis.**

y. **Per claim 77, *Chandra et al* teach the method of Claim 71, farther comprising:
incrementing the sequence number periodically (col.13 line 49-col.14 line 6, col.20 line 40-**

Art Unit: 2141

col.21 line 7 and col.22 lines 1-4; sequence numbers are incremented and decremented according to the insertions and deletions in the queue).

z. **Claim 100** is substantially equivalent to claim 77 and is therefore rejected under the same basis.

aa. **Per claim 78, *Chandra et al*** teach the method of Claim 77, wherein incrementing the sequence number periodically includes incrementing the sequence number according to an amount of time between a first packet of data being provided and a second packet of data being provided, wherein the second packet of data being provided depends upon the first packet of data being provided (**col.24 line 55-col.26 line 66 and col.28 lines 16-col.29 line 54**).

bb. **Claim 101** is substantially equivalent to claim 78 and is therefore rejected under the same basis.

cc. **Per claim 79, *Chandra et al*** teach the method of Claim 71, further comprising: prior to transferring the data, storing the data in a journal (**col.2 lines 52-60, col.4 lines 49-63, col.6 lines 12-44, col.6 line 64-col.7 line 3, col.10 lines 38-40, col.15 lines 39-44 and col.35 lines 1-26; provision for cache and storage prior to transmitting/transferring messages**).

dd. **Claim 102** is substantially equivalent to claim 79 and is therefore rejected under the same basis.

ee. **Claims 80, 81 and 103** contain limitations substantially equivalent to claims 63 and 71 and are therefore rejected under the same basis.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **82-85** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Chandra et al* (USPN 6,058,389) in view of *Talluri et al* (USPN 6,014,710).

a. **Per claim 82**, *Chandra et al* teach the computer system of claim 81 as applied above, yet fail to explicitly teach the computer system of Claim 81, wherein said first WAN blade is one of a first set of WAN blades, said second WAN blade is one of second set of WAN blades, said first device is included in a first consistency group of a plurality of storage devices, and said second device is included in a second consistency group of a plurality of storage devices. However, *Talluri et al* disclose storage nodes of a network with virtual and physical addresses for mapping data among the storage devices (**col.1 line 60-col.2 line 55, col.8 lines 15-55 and col.10 line 49-col.11 line 27**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Chandra et al* and *Talluri et al* for the purpose of providing access to data within a plurality of storage device operable over WAN; because it would allow distributed data buffering and archiving as well as transmission of the data over the Internet framework.

b. **Claims 83-85** are substantially similar to claim 82 and are therefore rejected under the same basis.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: *Chu* (USPN 4,093,823), *Baber et al* (USPN 6,546,428), *Autrey et al* (USPN 6,732,125), *Peters et al* (USPN 6,374,336) and *Martin et al* (USPN 5,632,027).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2141

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds


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